

## ROSTER OF ORGANIZATIONS IN THE FIELD OF AUTOMATIC COMPUTING MACHINERY

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The following organizations, according to information reaching us, are engaged in one way or another in the field of making or developing automatic computing machinery. Next each organization we have put a few comments for purposes of orientation. Although we have tried to make this report complete and accurate, we assume no liability for any statements expressed or implied. We shall be glad to receive any changes or corrections that any reader can send us.

The key to the abbreviations follows:

Ls	Large size, over 500 employees	Sc	Servomechanisms
Ms	Medium size, 50 to 500 employees	Ic	Incidental interests in automatic computing machinery
Ss	Small size, under 50 employees (No. in parentheses is approx. no. of employees)	Ma	Manufacturing activity
Se	Organization established a short time ago (1942 or later)	Sa	Selling activity
Me	Organization established a "medium" time ago (1923 to 1941)	Ra	Research and development
Le	Long established organization (1922 or earlier) (No. in parentheses is year of establishment)	Ca	Consulting
Dc	Digital computing machinery	Ga	Government activity
Ac	Analog computing machinery	Pa	Problem solving activity
		Ba	Buying activity

(Used also in combinations, as in RMSa, research, manufacturing and selling activity.)

\* This organization has very kindly furnished us with information expressly for the purpose of this roster, and therefore our report is likely to be more complete and accurate than otherwise might be the case.

## ROSTER

Addressograph-Multigraph Corp., 1200 Babbitt Road, Cleveland 17, Ohio, and elsewhere \*  
Addressograph plates, prepared automatically from punched tape, which will list and total repetitive figures. Data written at speeds up to 60 lines per second, and as a byproduct codes automatically punched into punch cards. Electronic facsimile printers for high-speed copying of typed data contained in unit card records. Machine functions controlled by sensing and selecting mechanism operated by punched holes in cards. Ls(8000) Le(1893) Ic RMSa

Alden Electronic and Impulse Recording Equipment Co., Alden Research Center, Westboro, Mass. \*  
Recording Equipment and components. Ma SEE Alden Products Co.

Alden Products Co., 117 No. Main St., Brockton, Mass. \*  
General and specific components for digital and analog computing machinery; plug-in components, sensing and indicating components, magnetic delay line units, etc. Ms(300) Me(1930)  
Ic RMSa

- Alfax Paper and Engineering Co., Alden Research Center, Westboro, Mass. \*  
Electrosensitive recording papers. Ma SEE Alden Products Co.
- American Totalisator Co., 745 Fifth Ave., New York, N.Y.  
Automatic totaling machines for use at race-tracks. Ic MSa
- Arma Corp., 254 36th Street, Brooklyn, N.Y. \*  
Electronic fire-control apparatus. Analog computer components including resolvers, induction generators, etc. Ls(7000) Le(1918) Ac RMSa
- Armour Research Foundation, Illinois Inst. of Technology, 35 West 33 St., Chicago 16, Ill.  
Magnetic tape for sound recording. Ss Me Ic RCa
- Askania Regulator Co., 240 E. Ontario St., Chicago, Ill.  
Automatic controls. Sc RMSa
- Autocall Co., Shelby, Ohio  
Relays for Harvard Mark II calculator. Ic MSa
- Automatic Electric Co., 1033 W. Van Buren St., Chicago, Ill. \*  
Telephone equipment, relays, stepping switches, etc. for independent telephone companies and computing machinery companies. Ls(6000) Le(1892) Ic RMSa
- Baird Associates, 33 University Rd., Cambridge 38, Mass.  
Spectroscopic analysis equipment. Scientific instruments. Ms Ic RMSa
- Barber-Colman Co., Rockford, Ill.  
Textile machinery, air control equipment, gears, etc. Barber-Colman--Stibitz low-cost digital computer, under testing. Ls(2500) Le Dc RMSa
- Beckman Instruments Inc., South Pasadena, Calif.  
"Analog-digital" converter. DAc RMSa
- Bell Telephone Laboratories, Murray Hill, N.J., and 463 West St., New York, N.Y.  
Automatic switching. Bell general purpose relay computers, for government and their own use. Ls Le Dc Ra
- Edmund C. Berkeley and Associates, 36 West 11 St., New York 11, N.Y., and 19 Milk St., Boston 9, Mass.  
Small one-of-a-kind computers (Simon) and robots (Squee), etc. Ss(4) Se(1948) Dc RCMSa
- Benson-Lehner Corp., 2340 Sawtelle Blvd., West Los Angeles 64, Calif. \*  
Automatic and semi-automatic devices (both analog and digital) for computing, data analyzing, data reduction, optical measuring, guided missile analysis, etc. Commercial applications of industrial control devices. Ms(55) Se(1950) DAc RCMSa
- Karl J. Braun Engineering Co., State St., Stamford, Conn.  
Mechanical punches for garment tag reader, etc. Ss Se Ic RMa
- British Tabulating Machine Co., Ltd., 17 Park Lane, London W.1, England  
Punch card machines. Ls Le Dc RMSa
- Brujac Electronic Corp., 103 Lafayette St., New York 13, N.Y.  
Sales organization for Computer Corporation of America

**Bureau of Census, Washington 25, D. C. \***

Design and construction of statistical processing equipment. Special punch card and other machines for own use. First customer owning a Univac. Ls(1100 in Machine Tabulation Division) Le(1890 in punchcard field) Dc Ga

**Burroughs Adding Machine Co., 6071 Second Ave., Detroit, Mich., and 511 No. Broad St., Philadelphia, Pa. \***

Adding machines, bookkeeping machines, etc. Research division in Philadelphia has made Burroughs Laboratory Computer, an electronic digital test computer. Pulse control components. Ls(18,000) Le(1896) DSc RMSPa

**Clary Multiplier Corp., 408 Junipero St., San Gabriel, Calif. \***

Adding and multiplying machines, cash registers, electronic counters, automatic read-out devices for electronic computers, data-reduction apparatus, analog-to-digital converters. Ls(800) Me(1939) DAc RMSa

**Computation Centre, Univ. of Toronto, Toronto, Canada \***

Digital, electronic computers. Ss(20) Se(1947) RPa

**Computer Corp. of America, 149 Church St., New York 7, N. Y.**

Electronic analog computer. Se Ac RMa

**Computer Research Corp., 3348 West El Segundo Blvd., Hawthorne, Calif. \***

Digital computers. Computer components. Ms(80) Se(1949) Dc RMSa

**Computing Devices of Canada, Lim., 338 Queen St. (headquarters) and 475 Cambridge St. (laboratories), Ottawa, Ont., Canada \***

Ms(90) Se(1948) DAsc RCMa

**Control Instrument Co., 67 35th Street, Brooklyn, N. Y. \***

Fire-control equipment. 1000 line a minute tabulator sold to Prudential Insurance Co. of America. Now a subsidiary of Burroughs. Digital and analog machines and components. Ls(1200) Me(1934) DAc RMSa

**The de Florez Co., 116 East 30 St., New York, N. Y.**

Magazine subscription fulfillment problem, etc. Ss Se DAc RCa

**Digital Control Systems, Inc., Top of Mount Soledad, P. O. Box 779, La Jolla, Calif.**

Ss Se Dc RMSa

**Eastman Kodak Co., Camera Works, 333 State St., Rochester, N. Y. \***

Use of film with small dots for computer input-output. High-speed printers: photographic, electro-mechanical, electronic facsimile. Ls Le(1888) Ic RCMSa

**Eckert-Mauchly Computer Corp., 3747 Ridge Ave. Philadelphia, Pa.**

All-purpose electronic digital computers. Binac, sold to Northrop Aircraft. Univac, first one sold to Bureau of Census. Now a subsidiary of Remington Rand. Ms Se Dc RMa

**Electronic Computer Corp., 265 Butler St., Brooklyn, N. Y. \***

Constructing three electronic digital computers. Delay lines, pulse transformers, magnetic recording heads, magnetic drums, D. C. plug-in amplifiers. Ms(70) Se(1949) Dc RMSa

**Electronic Engineering Co., 180 South Alvarado St., Los Angeles, Calif.**

Analog computing machinery. Analog-to-digital-to-analog converters. Polar-to-rectangular-to-polar converters. Servomechanisms. Ms Se DAc RMSa

Elliott Bros. (London), Ltd., Century-Works, Lewisham, London S. E. 13, England, and Research Laboratories, Elstree Way, Borehamwood, Herts., England \*

Digital, analog, and servomechanisms. Ls(2000) Le(1800) DAsC RMSa

Engineering Research Associates, Inc., St. Paul, Minn., and Arlington, Va. \*

Digital computers; ERA 1101 electronic digital computer. Magnetic storage systems, including magnetic heads, magnetic drums, etc. Shaft-position indicator systems, self-recording accelerometers, analog magnetic recording systems, data-handling equipment. Ls(750) Se(1946) Dc RMCPa

Engineers Northwest, 100 Metropolitan Life Bldg., Minneapolis 1, Minn. \*

Test scoring machines and equipment. Ss(12) Se(1945) DAC RCMA

Federal Telephone and Radio Corp., Clifton, N. J.

Equipment for airline reservation problem. Ic RMSa

Ferranti Electric, Inc., 30 Rockefeller Plaza, New York 20, N. Y., agent for Ferranti Electric, Ltd., Moston, England, and Mount Dennis, Toronto, Canada. \*

Complete electronic digital computers. High-speed punch tape readers. Magnetic drum memory equipment, etc. Ls(10,000) Le(1896) Dc RMSa

The Franklin Institute Laboratories for Research and Development, 20th St. & Benjamin Franklin Parkway, Philadelphia 3, Pa. \*

Fire control equipment. Special purpose analog computers, large and small scale. Digital computer components. Prototype construction. Ms(280) Se(1946) DAC RCa

Friden Calculating Machine Co., San Leandro, Calif.

Desk calculating machines. Ls Me Dc RMSa

General Electric Co., Syracuse, N. Y., and Schenectady, N. Y. \*

Digital and analog, electric and electronic, computers and analyzers.  
Ls Le Ic RMSa

Harvard Computation Laboratory, Cambridge 38, Mass.

Harvard Mark I, II, III, IV calculators for Navy, Air Force, and own use.  
Ms Se Dc RPMa

Hogan Laboratories, 155 Perry Street, New York, N. Y. \*

Facsimile. Digital, high-speed printers. Ms(60) Me(1929) Dc RMSa

Hughes Aircraft Co., Culver City, Calif.

Aircraft, guided missiles, fire-control equipment. Ls Me DAC RMSa

Institut Blaise Pascal, 155 Rue de Sèvres, Paris 15, France

Constructing a digital calculator. Dc RPa

Institute for Advanced Study, Princeton, N. J.

"Maniac", big fast electronic digital calculator, for own use. Dc RPMa

Intelligent Machines Research Corp., 134 So. Wayne St., Arlington, Va. \*

Devices for reading characters on paper, etc. Pattern interpretation equipment. Sensing mechanisms. Digital computer elements. Ss(6) Se(1951) Dc RCMSa

International Business Machines Corp., 590 Madison Ave., New York, N. Y.

Punch card machines. IBM Selective Sequence Electronic Calculator. Card programmed

calculators, electronic calculating punch, "defense" calculator, etc. Ls(30,000?) Le Dc  
RMSa

International Telephone and Telegraph Corp., 67 Broad St., New York, N.Y.  
Equipment for airline reservation problem. Ic RMSa

Jacobs Instrument Co., 4718 Bethesda Ave., Bethesda 14, Maryland \*  
Small, compact digital computers. Analog computers. Input and output devices. Complete  
instrument systems. Ms Se(1948) DAsc RMSa

A. Kimball Co., 307 West Broadway, New York, N.Y. \*  
Machine for printing and punching garment tags. Input mechanisms. Ms(200+) Le(1876)  
Ic RMSPa

Laboratory for Electronics, Inc., 43 Leon Street, Boston 15, Mass. \*  
Special computers to suit customer requirements. Ms(350) Se(1946) DAsc RMPa

Lithomat Corp., 58 Charles St., Cambridge, Mass.  
Machinery for composing type by photography. Se Ic RCMSa

Arthur D. Little, Inc., 30 Memorial Drive, Cambridge 42, Mass. \*  
Analog-digital converter called "Digital Reader". Advanced equipment. Ms(500+) Le(1886)  
Ic RCa

W.S. MacDonald Co., Inc., 33 University Road, Cambridge, Mass. \*  
Digital business machines using magnetic drum memory for 10,000 registers. Ss Se(1946)  
Dc RMSPa

Marchant Calculating Machine Co., Oakland, Calif. \*  
Desk calculating machinery. Ls(2500) Le(1910) Dc RMSa

Massachusetts Institute of Technology, Digital Computer Laboratory (formerly Servomechanisms Lab-  
oratory); also Center of Analysis; Cambridge 39, Mass.  
"Whirlwind" electronic digital computer. Ms(300+) Se(1945?) DAc RCPa

Mellon Institute, Pittsburgh 13, Pa. \*  
Ss(6) Se(1950) Dc RCa

Monroe Calculating Machine Co., Orange, N.J. \*  
Desk calculating machinery. Electronic digital computer research. Ls Le Dc RMSa

Moore School of Electrical Engineering, Univ. of Pennsylvania, Philadelphia, Pa.  
Place where Eniac and Edvac electronic digital computers were constructed. Ss Me'DAc  
RCPMa

National Bureau of Standards, Division of the National Applied Mathematics Laboratories \*:

- (1) Computation Laboratory, Washington 25, D.C.  
Bureau of Standards Eastern Automatic Computer. Ms(100) Me(1938) Dc RCPGa
- (2) Institute for Numerical Analysis, 405 Hilgard Ave., Los Angeles 24, Calif.  
Bureau of Standards Western Automatic Computer. Ms(100) Se(1947) Dc RCPGa
- (3) Machine Development Laboratory, Washington 25, D.C.  
Specifications development. Systems analysis. Ss(10) Se(1947) Dc RCGa

National Bureau of Standards, Electronics Division, Electronic Computers Section, Washington 25, D. C.  
Ms(80) Se(1946) Dc RCMGa

National Cash Register Co., 323 No. Michigan Ave., Dayton, Ohio  
Cash registers. Ls Le Ic RMSa

Naval Research Laboratory, Anacostia, Md.  
Ms Me Ic RCPa

Northrop Aircraft Co., Hawthorne, Calif. \*  
Owner of Binac. Makers of Maddida, digital differential analyzer. Ls(16,000) Me(1939)  
DASc RMSPa

Nuclear Development Associates, 80 Grand St., White Plains, N. Y.  
Ss Se Dlc RMSa

Pennsylvania State College, State College, Pa. \*  
X-RAC computer for crystal electron density functions. S-FAC for structure factor calculations. Ss(20) Se(1947) Ac RPa

George A. Philbrick Researches, Inc., 230 Congress St., Boston 10, Mass. \*  
Electronic analog computing equipment. Ss(5+) Se(1946) Ac RCMSa

Physical Research Laboratory, 542 North Fair Oaks Ave., Pasadena, Calif.  
Digital computing machinery. Analog-to-digital converters. Servo-mechanisms.  
Ss Se DAc Ra

Pitney-Bowes, Inc., Stamford, Conn. \*  
Postage meters. Tax-stamping meters. "Tickometer" counting and/or imprinting machines.  
Ls(3000) Le(1920) Ic MSa

Potter Instrument Co., 115 Cutter Mill Rd., Great Neck, N. Y. \*  
Electronic counters. Electronic tag reader. Random access memory. High speed printer.  
Ms(100) Se(1942) Dc RCMSa

Powers-Samas Accounting Machines Sales, Ltd., 814 No. Michigan Ave., Chicago 11, Ill., agent for  
Powers-Samas Accounting Machines, Ltd., England \*  
Punched card tabulating equipment using small, medium, and standard cards. Ls(6000)  
Le(1916) Dlc RMSa

Radio Corp. of America, Laboratories, Princeton, N. J., and R. C. A. Victor Div., Camden, N. J.  
Selectron. Magnetic matrix memory. Ls Le Ic RMSa

The Rand Corp., 1500 4th St., Santa Monica, Calif. \*  
Ms Se(1946) DAc RCPa

Raytheon Manufacturing Co., Waltham, Mass. \*  
Radar. Fire-control equipment. Two big fast electronic digital computers, being finished.  
Ls(18,000) Me(1928) DAc RMSa

Reeves Instrument Co., 215 East 91 St., New York, N. Y.  
Fire-control equipment. "REAC" electronic analog computers. Ls Me Ac RMSa

Saunders Automatic Systems Corp., Memphis, Tenn.  
"Keedoozle" automatic store devices. Ic RMSa



Scientific Computing Service, Ltd., 23 Bedford Sq., London W. C. 1, England  
DAC CPa

Sperry Gyroscope Co., Great Neck, N.Y. \*  
Fire-control equipment. Navigation equipment, sea and air. Radar, Loran, gyrocompasses.  
Ls(15,000) Le(1910) Ac RMSa

Swedish State Board of Computing Machinery, Stockholm, Sweden  
Contractor for "BARK", relay digital computer. DAC RBA

Sylvania Electric Co., 70 Forsyth St., Boston 15, Mass. \*  
Big fast electronic analog and digital computers, for government. Subassemblies of diodes  
and triodes. Ls(1200) Se(Company, 1901, this division, 1945) DAC RMSa

Taller and Cooper, 75 Front St., Brooklyn, N.Y. \*  
Dynamic testing. Toll equipment for bridges. Ms(250) Me(1926) Dic RMSa

Technitrol Engineering Co., 2751 No. 4 St., Philadelphia 33, Pa. \*  
Computing and control equipment. Complete digital systems. Components. Electrical and  
acoustic delay lines. Ms(50) Se(1947) DAC RMSa

Telecomputing Corp., 133 E. Santa Anita Ave., Burbank, Calif. \*  
Ms(160) Se(1947) Dc RMPa

Teleregister Corp., 157 Chambers St., New York, N.Y.  
Associated with Western Union. Ic RMSa

Underwood Corp., General Research Lab., 56 Arbor St., Hartford 6, Conn. \*  
Underwood electric typewriters, used in Harvard Mark II calculator. Ls (company, 10,000;  
laboratory, 100) Le(1895) Dic RMSa

Union Switch and Signal Co., Swissvale, Pa.  
Railroad signaling and control systems. Ic MSa

U.S. Air Force, Office of Air Research, also Inst. of Technology, Wright-Patterson Air Force Base,  
Dayton, Ohio  
Electronic strategy machine, made by L. I. Davis. Assembling a computing laboratory. Ls  
Sc Ic Ga

U.S. Army, Ballistic Research Laboratories, Aberdeen Proving Ground, Aberdeen, Md. \*  
Has Bell, Edvac, Eniac, Ordvac computer and other computers. Ms Le DAC Ga

U.S. Naval Proving Ground, Computation and Ballistics Division, Dahlgren, Va. \*  
Has Harvard Mark II relay and Mark III electronic digital computers. Ms(200) Se(1942) Dc  
Ga

Univ. Mathematical Laboratory, Free School Lane, Cambridge, England  
Has EDSAC electronic digital calculator. Dc RCPa

Univ. of California, Berkeley, Calif. \*  
Constructing CALDIC, California Digital Computer. Dc RPa

Univ. of Illinois, Urbana, Ill.  
Constructing an electronic digital computer Ordvac like Princeton's Maniac. Dc RPa

Univ. of Manchester, Manchester, England \*

Electronic digital computers. Dc RPa Ss(8) Se(1947)

Univ. of Michigan, Willow Run Research Center, Willow Run Airport, Ypsilanti, Mich. \*

High-speed digital computers, including MIDAC. Electronic and electromechanical analog computers. Special purpose computing equipment. Ls(500) Se(1946) DAc RCPa

Wallind-Pierce Corp., 109 Bond St., Redondo Beach, Calif. \*

Digital-to-analog, and analog-to-digital translators. Digital and analog computers, magnetic amplifiers, etc. Ss(18) Se(1951) DAsc RCMSa

Wang Laboratories, 296 Columbus Ave., Boston 16, Mass. \*

Magnetic delay-line memory units. Static magnetic memory systems and other devices. Ss Se(1951) Dc RCMSa

Watson Scientific Computing Laboratory, 612 West 116 St., New York, N.Y.

The pure science department of International Business Machines. Simultaneous linear equation solver. Astronomical plate measuring machine. Ss Me DAc RCPa

Wayne University, 5135 Cass Ave., Detroit 1, Mich. \*

Computation laboratory. Now has the first MIT differential analyzer. Acquiring a large digital computer. Ss(10) Se(1950) DAc RCPa

Western Union Telegraph Co., 60 Hudson St., New York 13, N.Y. \*

Punched tape input and output equipment for Harvard Mark II calculator. Ls(company, 43,000) Le(1851) Ra(computing devices) Ic

Westinghouse Electric Corp., Central Engineering Div., East Pittsburgh, Pa. \*

Analog computers for rate calculations, etc. DC, AC calculating boards. ANACOM computer. Ls Le DAsc RCMSa

Zator Co., 40 Grozier Road, Cambridge, Mass. \*

Information-finding equipment and systems. Card and film sorting, scanning, etc. Ss(2) Se(1947) Ic RCMSa



